



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:  
Yifei Yao  
Serial No.: 10/007,335  
Filed: 11/08/2001  
Title: A Power Saving Illuminating Device

Examiner: Thomas M. Sember

Art Unit: 2875

#77/Response  
MSH  
6/5/03

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**RESPONSE**

Sir:

In response to the Office Action dated March 19, 2003, please consider the following remarks:

Claims 1 through 5 were pending in the above-identified patent application when last examined. Claims 1 through 5 were rejected in the Office Action dated March 19, 2003.

In sections 1 and 2 of the Office Action, the Examiner rejected claims 1-5 under 35 U.S.C. §103(a) as being anticipated by U.S. Patent No. 5,982,969 to *Sugiyama et al.* in view of U.S. Patent No. 5,519,593 to *Hasness*. Applicant respectfully traverses this rejection.

Claim 1 is patentable over *Sugiyama et al.* and *Hasness* by at least reciting:

A power saving illuminating device comprising a base with an opening on it, at least one semiconductor luminotron and a DC power source disposed within the base, a transparent refractive body mounted on the opening of the base, said semiconductor luminotron being connected to said power source,

wherein said transparent refractive body is full of light-reflecting granula within its body and is positioned in a manner that an end surface thereof is facing the semiconductor luminotron to enable an incident light from the semiconductor luminotron to have a long propagation.

In contrast, *Sugiyama et al.* discloses an optical transmission tube comprising tubular transparent cladding and a hollow transparent core coaxially disposed within. A reflecting layer

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is disposed between the core and the cladding along the longitudinal length of the core. (Column 4 lines 25 – 29). *Sugiyama et al.* makes no reference to granula within the core. Further, it should be noted that FIG. 4 of *Sugiyama et al.* does not show granula within the hollow core; the dots within the core are actually shading and do not represent granula. In contrast, claim 1 recites a transparent refractive body having light-reflecting granula disposed within. As *Sugiyama et al.* does not teach the granula within the core (and the Examiner makes no mention of granula in the Office Action), the combination of *Sugiyama et al.* and *Hasness* would not yield the invention recited in claim 1.

Even assuming that the scattering particles of the reflecting layer are equivalent to the granula of claim 1, *Sugiyama et al.* and *Hasness* still do not anticipate claim 1 because *Sugiyama et al.* does not disclose that the core or device is full of scattering particles as recited in claim 1. Specifically, in contrast to claim 1, the scattering particles of *Sugiyama et al.* are limited to the reflecting layer and are not present throughout the refractive body of the device, as claimed. Therefore, for this additional reason, the combination of *Sugiyama et al.* and *Hasness* does not yield the invention recited in claim 1.

It will further be appreciated that because of the substantially different design of the invention as compared to *Sugiyama et al.*, the light generated by the invention as recited in claim 1 is generally diffuse and scattered due to the individual granula disposed within the body. In contrast, the light generated by *Sugiyama et al.* is highly uniform and directed as indicated by arrows L in FIG. 3.

Accordingly, Applicant respectfully submits that claim 1 is allowable over the cited art for at least these reasons. Further, as claims 2 – 5 depend through to claim 1, they should be allowable for at least these same reasons. As such, Applicant request withdrawal of this rejection.

In addition, claim 2 is patentable over *Sugiyama et al.* and *Hasness*, by at least reciting “wherein said light-reflecting granula is evenly distributed within said transparent refractive body.” In contrast, *Sugiyama et al.* discloses scattering particles solely in a reflecting layer between the core and the cladding, not evenly distributed in the body as claimed. (Column 4, lines 30 – 31; Column 5, lines 59 – 62). Further, the scattering particles are not evenly distributed within the reflecting layer. Specifically, the scattering particles are located on the lower inner surface of the cladding only. (Column 6, lines 45 – 55). As *Sugiyama et al.* does not

teach evenly distributed granula within the body or within the reflective strip, the combination of *Sugiyama et al.* and *Hasness* would not yield the invention recited in claim 2. Accordingly, claim 2 is allowable for at least this additional reason over the cited references and Applicant requests withdrawal of this rejection.

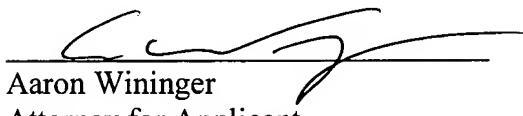
Claim 4 is patentable over *Sugiyama et al.* and *Hasness* by at least reciting that the "granula is in the form of thin and flat pieces." In contrast, the scattering particles of *Sugiyama et al.* have a mean particle size of 0.1 to 30 µm, which make it impossible for the scattering particles of *Sugiyama et al.* to be flat and thin. As *Sugiyama et al.* does not teach thin and flat granula, the combination of *Sugiyama et al.* and *Hasness* would not yield the invention recited in claim 4. Accordingly, claim 4 is allowable for at least this additional reason over the cited references and Applicant requests withdrawal of this rejection.

If the Examiner has any questions or needs any additional information, the Examiner is invited to telephone the undersigned attorney at 1 (650) 843-3375.

If for any reason an insufficient fee has been paid, the Commissioner is hereby authorized to charge the insufficiency to Deposit Account No. 05-0150.

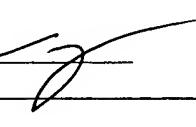
Respectfully submitted,  
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CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

Date: 5/16/03 By:   
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